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tapering the diameter of said laser rod along said entire length.

REMARKS

Claims 1-20 were presented for examination, are pending and are rejected.

Reconsideration is respectfully requested.

The 35 U.S.C. 103(a) Rejections

Claims 1-20 are rejected as being anticipated by Meissner et al. in view of Takeda et al. The rejection is respectfully traversed.

Meissner et al. does disclose a laser rod design with a polished barrel, which is an element of the present invention. However, the Meissner patent only has a taper or flange on the undoped portion of the laser rod near the laser rod's two ends, while independent claims 1, 12 and 16 of the present invention have been amended to explicitly claim a taper over the entire doped length of the laser rod. Takeda et al. describes a tapered core optical fiber and not a laser rod, as claimed by the applicants. Takeda et al. explicitly discloses and claims a fiber core and a cladding and makes no mention of laser rods. Fiber cores are typically on the order of the wavelength of light in their diameter (<10 microns), whereas laser rods are typically mm to cm in diameter (> 1000 microns). Thus, the Takeda et al. invention is distinct from the present invention. Additionally, the reason Takeda tapers the fiber core is for improved fiber laser efficiency and has no relation to the reason the applicants taper the laser rod diameter, which is for the purpose of suppressing barrel mode parasitics. Claims 2-11

depend from claim 1. Claims 13-15 depend from claim 12. Claims 17-20 depend from claim 16. Therefore the rejection should be withdrawn.

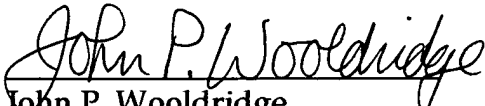
Conclusions

It is submitted that this application is in condition for allowance based on claims 1-20 in view of the amendments thereto and the foregoing comments.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings To Show Changes Made."

If any impediments remain to prompt allowance of the case, please contact the undersigned at 925-292-8652.

Respectfully submitted,


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Version With Markings To Show Changes Made

In the claims:

Claims 1, 12 and 16 have been amended as follows:

1. (Amended) An apparatus, comprising:

a polished doped laser rod comprising a first end and a second end and an entire length, wherein said laser rod comprises a tapered diameter along said entire length;

a first flanged endcap operatively connected to said first end; and
a second flanged endcap operatively connected to said second end.

12. (Amended) A solid state laser, comprising:

a doped laser rod with a first end and a second end and an entire length, wherein said laser rod comprises a tapered diameter along said entire length;

a first flanged, undoped end-cap optically contacted to said first end portion to form a first interface;

a second flanged, undoped end-cap optically contacted to said second end to form a second interface;

a cooling jacket sealably coupled to said first and second flanged end-caps;

a pump laser for providing pump laser light directed at said first flanged end-cap; and

a lens duct interposed between said pump laser and said first flanged end-cap, wherein said lens duct will concentrate said pump laser light.

16. (Amended) A method for fabricating a laser rod, comprising:
providing a polished doped laser rod comprising a first end and a second end and an entire length;
operatively connecting a first flanged endcap to said first end;
operatively connecting a second flanged endcap to said second end;
and
tapering the diameter of said laser rod along said entire length.